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POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268–0001

Public Inquiry on the Methodology to Estimate the Value of the Postal Service Letter and Mailbox Monopolies	Docket No. PI2020-1

RESPONSES OF THE UNITED STATES POSTAL SERVICE
TO QUESTIONS 1-6 OF CHAIRMAN'S INFORMATION REQUEST NO. 2
(November 12, 2019)

The United States Postal Service hereby provides its responses to the above-listed questions of Chairman's Information Request No. 2, issued November 4, 2019. The questions are stated verbatim and followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorney:

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Eric P. Koetting

475 L'Enfant Plaza West, S.W.
Washington, D.C. 20260-1137
(202) 277-6333
eric.p.koetting@usps.gov
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1. Please refer to the revised Attachment to Chairman's Information Request No. 1.[1]

a. Please confirm that the FY 2017 city carrier total delivered delivery point sequence (DPS) volume estimated by the sampled route-days in the "UlOCS" stratum is 3,962,473,020.[2]

b. If the answer to question 1.a is not confirmed, please provide the city carrier total FY 2017 DPS delivered volume estimated by the sampled route-days in the "UlOCS" stratum and explain how the estimate was developed.

c. Please confirm that the FY 2017 city carrier total delivered DPS volume estimated by the sampled route-days in the "UBUS" stratum is 489,000,096.

d. If the answer to question 1.c is not confirmed, please provide the city carrier total FY 2017 DPS delivered volume estimated by the sampled route-days in the "UBUS" stratum and explain how the estimate was developed.

e. Please confirm that the city carrier total FY 2017 delivered DPS volume estimated by the sampled route-days in the "URES" stratum is 54,994,718,100.

f. If the answer to question 1.e is not confirmed, please provide the city carrier total FY 2017 DPS delivered volume estimated by the sampled route-days in the "URES" stratum and explain how the estimate was developed.

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[1] Revised Attachment to Responses of the United States Postal Service to Chairman's Information Request No. 1 -- Errata, October 18, 2019, Excel file "PI.ChIR1.Q.2.3.Attach.Rev.10.18.19.xlsx," tab "2b" (Revised Attachment to CHIR No. 1).

[2] Commission analysis of Docket No. ACR2017, Library Reference USPS-FY17-34, December 29, 2017, SAS dataset "cccs_z_acr_public_fy17_final.sas7bdat." The CCCS sample records are weighted using the quarterly "DELWGT" variable ("DELDAYS" variable (total number of delivery days) multiplied by the ratio of the "MASTER" variable (actual total number of routes in that stratum type) to the "COMPLETE" variable (the number of routes sampled in that stratum)) multiplied by the "NOPIECES" (total mailpieces for the entry weighted by the skip interval) variable. Collectively, this weights the sampled route-day up to the number of delivery days in the fiscal year quarter, weights the sampled routes tested up to the quarterly total number of routes in that stratum, and weights the number of mailpieces sampled on that route-day for that mail type, up to the total for that mail type if a sampling skip interval was used. *See* Library Reference USPS-FY17-34, PDF file "USPS-FY17-34_CCCS_Preface.pdf," at 5, 29.

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RESPONSE:

1.

a. Confirmed.

b. N/A

c. Confirmed.

d. N/A

e. Confirmed.

f. N/A

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2. The Commission's preliminary analysis using the FY 2017 public City Carrier Cost System (CCCS) SAS dataset provided in Docket ACR2017 calculates different DPS mail product type percentages by stratum[3] than those provided in the Postal Service's Revised Attachment to CHIR No. 1 for the manual CCCS sample (Revised Attachment).[4] The following questions relate to some of those differences.

a. Based on this preliminary analysis, an estimated 1,444,974,502 First-Class Presorted DPS letters were delivered (Monday through Saturday, excluding holidays)[5] in FY 2017 by city carriers on letter routes in ZIP Codes with five or fewer city carrier routes nationwide.[6] Given this estimate, First-Class Presorted DPS letters appear to make up 36.47 percent of the total DPS mail delivered by city carriers on letter routes in ZIP Codes with five or fewer city carrier routes.[7] However, the Revised Attachment estimates that 33.63 percent are First-Class Presorted DPS letters.[8] Please discuss the reason(s) for the difference and explain the Postal Service's calculation methodology.

b. Based on this preliminary analysis, an estimated 131,134,667 Marketing Mail Nonprofit DPS letters were delivered (Monday through Saturday, excluding holidays)[9] in FY 2017 by city carriers on all business routes (foot or motorized routes on which 70 percent or more of the possible deliveries are to business establishments)[10] in ZIP Codes with six or more city

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[3] Library Reference USPS-FY17-34, SAS dataset "cccs_z_acr_public_fy17_final.sas7bdat." The stratum specific (sampled route is weighted to represent all routes of that type nationwide) estimated quarterly volume from the routes sampled in each separate stratum are summed to produce the estimated overall volume of city carrier delivered mail products on letter routes nationwide.

[4] *See* Revised Attachment to CHIR No. 1, Excel file "PI.ChIR1.Q.2.3.Attach.Rev.10.18.19.xlsx," tab "2b."

[5] *See* Library Reference USPS-FY17-34, PDF file "USPS-FY17-34_CCCS_Preface.pdf," at 4.

[6] Commission analysis of Docket No. ACR2017, Library Reference USPS-FY17-34, SAS dataset "cccs_z_acr_public_fy17_final.sas7bdat." This DPS product type is found in the "MAILCODE" variable indicated by a value of "010110" in the FY 2017 CCCS SAS dataset. *See also* Revised Attachment to CHIR No. 1, Excel file "PI.ChIR1.Q.2.3.Attach.Rev.10.18.19.xlsx," tab "2b," cell D2.

[7] Using the Commission-calculated estimated FY 2017 DPS total volume (in question 1.a of this CHIR) for all city carrier routes nationwide in ZIP Codes with five or fewer city carrier routes as the denominator.

[8] *See* Revised Attachment to CHIR No. 1, Excel file "PI.ChIR1.Q.2.3.Attach.Rev.10.18.19.xlsx," tab "2b," cell C3.

[9] *See* Library Reference USPS-FY17-34, PDF file "USPS-FY17-34_CCCS_Preface.pdf," at 4.

[10] Responses of the United States Postal Service to Questions 1-5 of Chairman's Information Request No. 1, October 17, 2019, question 2.c (Response to CHIR No. 1).

carrier routes nationwide.[11] Given this estimate, Marketing Mail Nonprofit DPS letters appear to make up 26.82 percent of the total DPS mail delivered by city carriers on business routes (ZIP Codes with 6 or more city carrier routes) nationwide.[12] However, the Revised Attachment estimates that 25.20 percent are Marketing Mail Nonprofit DPS letters.[13] Please discuss the reason(s) for the difference and explain the Postal Service's calculation methodology.

RESPONSE:

a. The Revised Attachment estimates used the FY 2018 non-public City Carrier Cost System (CCCS) SAS dataset provided in Docket ACR2018. Using the FY2017 CCCS SAS dataset, the Postal Service confirms the count and percentage obtained by the Commission for First-Class Presorted DPS letters on routes in ZIP Codes with five or fewer routes.

b. The Revised Attachment estimates used the FY 2018 non-public City Carrier Cost System (CCCS) SAS dataset provided in Docket ACR2018. Using the FY2017 CCCS SAS dataset, the Postal Service confirms the count and percentage obtained by the Commission for Marketing Mail Nonprofit DPS letters on business routes in ZIP Codes with six or more routes.

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[11] Commission analysis of Library Reference USPS-FY17-34, SAS dataset "cccs_z_acr_public_fy17_final.sas7bdat." This DPS product type is found in the "MAILCODE" variable indicated by a value of '030200' in the FY 2017 CCCS SAS dataset in Library Reference USPS-FY17-34. *See* also Revised Attachment to CHIR No. 1, Excel file "PI.ChIR1.Q.2.3.Attach.Rev.10.18.19.xlsx," tab "2b," cell G2.

[12] Using the Commission-calculated estimated FY 2017 DPS total volume (in question 1.b of this CHIR) for all business routes nationwide in ZIP Codes with six or more city carrier routes as the denominator.

[13] *See* Revised Attachment to CHIR No. 1, Excel file "PI.ChIR1.Q.2.3.Attach.Rev.10.18.19.xlsx," tab "2b," cell G4.

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3. The Postal Service states that when the ZIP Code of a manual CCCS test happens to be the same ZIP Code as the digital DPS CCCS test, "it is very unlikely that these would both be tested on the same day since the samples [from each sampling system] are generated independently."[14]

a. Please specify whether the type of DPS mail products delivered may differ given the day of the week for the route types sampled in the manual CCCS and for the type of zones sampled in the DPS CCCS digital sample. If applicable, please describe the circumstances under which the DPS mail products may differ.

b. Please explain how the total number of sampled days (Monday through Saturday) is distributed (by day of the week on which the test is conducted) in a fiscal year quarter.

i. If the sample day of the week distribution varies by fiscal year quarter, please explain.

ii. If the sample day of the week distribution differs between the manual CCCS sample and the digital DPS CCCS sample, please explain and demonstrate how the total number of sample days selected for each sampling system is distributed (by day of the week on which the test is conducted) in a fiscal year quarter.

c. Please describe the potential impact on estimated DPS mail product types if the sampled day in the digital DPS CCCS is different from the sampled day in the manual CCCS.

RESPONSE:

a. DPS products do differ by day of the week. There is a preponderance of First-Class mail on Mondays compared to other days of the week. Marketing Mail is dominant on Tuesdays and Wednesdays.

[14] Response to CHIR No. 1, question 1.b.v.

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b. Tests within a fiscal quarter are scheduled uniformly over the days of the week where mail is scheduled to be delivered. However, the number of each individual day of the week can vary due to the calendar as well as because of holidays. For the manual CCCS, some tests may also be cancelled or occasionally rescheduled, affecting the number of tests per day of week within a quarter. See sheet "3bii" in electronically-attached workbook PI2020.1.ChIR2.xlsx, for summaries of the number of tests by day of week within each quarter.

c. If the sampled day in the digital DPS CCCS is different from the sampled day in the manual CCCS, particularly among days that have different product distributions, then there could be differences in the estimated volumes by product.

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4. Please refer to the Revised Attachment to CHIR No. 1.

a. The Postal Service provides the total number of days sampled in each fiscal year quarter for the manual CCCS strata.[15] Please show how the sampled days by stratum are distributed in the weeks of the months for each FY 2018 quarter.

b. The Postal Service provides the total number of days sampled in each fiscal year quarter for the digital DPS CCCS strata.[16] Please show how the sampled days by stratum are distributed in the weeks of the months for each FY 2018 quarter.

c. Please describe any potential differences in DPS product types given which weeks are sampled for each month in the fiscal year quarter.

RESPONSE:

a,b. The requested data are provided in attached workbook PI2020.1.ChIR2.xlsx, sheets 4a and 4b. The first week of the month is defined as the first seven days of the month, while succeeding weeks are the sets of seven days following.

c. DPS product types do not vary significantly by weeks of the month.

[15] *See* tab "2f-g-h," rows 11-15.

[16] *See* tab "3i."

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5. For the manual CCCS sample, the Postal Service states that "[w]ithin each stratum, routes are geographically ordered, and a systematic random sample of routes is selected."[17]

a. Please describe what geographic information is selected and the basis for the selection.

b. Please provide a complete list of geographic indicators that can be linked to the sampled city carrier route.

RESPONSE:

a. Routes are geographically ordered by ZIP Code before a systematic random sample of routes is selected.

b. The requested mapping of the encrypted to actual ZIP Codes is filed under seal and provided in folder USPS-PI2020-1/NP1.

[17] *See* Library Reference USPS-FY17-34, PDF file "USPS-FY17-34_CCCS_Preface.pdf," at 4.

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6. The Postal Service states that "[w]hile it is likely to prove difficult to obtain distribution factors from DPS digital images for individual routes, it appears to be feasible to obtain these for individual zones." Response to CHIR No. 1, question 5.b.

a. Please describe any Postal Service analysis related to the similarities or differences in the DPS product type distribution between the digital DPS CCCS data selected from the same zone as the route selected in the manual CCCS "lOCS," "UBUS," and "URES" strata.

b. If no comparison has been conducted between the types of DPS mail products from the digital DPS CCCS in the same zone as the manual CCCS sampled route, please identify a timeframe for when this type of analysis may be available.

c. Please discuss whether the Postal Service has sufficient quarterly DPS digital images to develop product distribution factors for all zones in which the manual CCCS routes are selected.

RESPONSE:

a. One approach to evaluating whether two distributions are significantly different or not is to use the Mahalanobis distance, which uses the differences between proportions that have been normalized to reflect sampling variability.[18] Assuming that the differences are normally distributed, the sum of squares of normalized differences have a chi-square distribution, with degrees of freedom determined by the number of products within the comparison.

Workbook PI2020.1.ChIR2.xlsx, sheet "Q6.compareFY17Man_FY18Dig" performs this comparison between manual and digital distributions within the same stratum. Specifically, within each of the "UlOCS", "UBUS" and "URES"

[18] Finch, W.H., "Distribution of variables by method of outlier detection", Frontiers in Psychology, 2012, 3:11. See also, https://en.wikipedia.org/wiki/Mahalanobis_distance#Normal_distributions.

strata, it compares the distributions from FY17 manual to the FY18 digital tests. For all three strata, the differences are not statistically significant.

Because this test compares FY18 digital data to FY17 manual data, any differences that had appeared could also have been partly caused by true changes in the mail distribution (for example, by the ongoing decline in First-Class letters), not just by sampling differences. Furthermore, in cases where detailed CV information was unavailable, a lower-valued, more conservative, proxy was selected. For example, CVs specific to the CCCS-Digital estimates were assumed to be zero, and only CVs from FY17 manual tests were included.

b. N/A.

c. There are a significant number of routes tested in the CCCS-Manual system where there is no corresponding CCCS-Digital test for the zone of the tested route.